

THAT WHICH IS CLAIMED:

1. A method for increasing resistance of a plant to at least one pathogen, said method comprising transforming said plant with a DNA construct comprising a nucleotide sequence that encodes a protein having anti-pathogenic activity, wherein said nucleotide sequence is selected from the group consisting of:

- a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:3;
- b) the nucleotide sequence set forth in SEQ ID NO: 6;
- c) a nucleotide sequence that shares at least 80% identity to the sequence of SEQ ID NO:6; and,
- d) the defensin nucleotide sequence contained in a plasmid deposited as Patent Deposit No. PTA-75; and,
- e) a nucleotide sequence that hybridizes to the complement of any one of a)-d) under highly stringent conditions, wherein said highly stringent conditions comprise hybridization in 50% formamide, 1M NaCl, 1% sodium dodecyl sulphate at 37°C for at least 4 hours, and a wash in 0.1X SSC at 60°C for at least 30 minutes; wherein said nucleotide sequence is operably linked to a promoter that drives expression of a coding sequence in a plant cell; and regenerating stably transformed plants with increased resistance to at least one pathogen.

2. The method of claim 1, wherein said pathogen is a fungal pathogen.

3. The method of claim 1, wherein said plant is a dicot.

4. The method of claim 1, wherein said plant is a monocot.

5. The method of claim 1, wherein said promoter is a constitutive promoter.

6. The method of claim 5, wherein said constitutive promoter is selected from the *scp1* or *ucp* promoter.

7. The method of claim 1, wherein said promoter is an inducible promoter.
8. The method of claim 7, wherein said promoter is a pathogen-inducible promoter.
9. A plant having stably incorporated into its genome a DNA construct comprising a nucleotide sequence that encodes a protein having anti-pathogenic activity, wherein said nucleotide sequence is selected from the group consisting of:
- a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:3;
 - b) the nucleotide sequence set forth in SEQ ID NO: 6;
 - c) a nucleotide sequence that shares at least 80% identity to the sequence of SEQ ID NO:6;
 - d) the defensin nucleotide sequence contained in a plasmid deposited as Patent Deposit No. PTA-75; and,
 - e) a nucleotide sequence that hybridizes to the complement of any one of a)-d) under highly stringent conditions, wherein said highly stringent conditions comprise hybridization in 50% formamide, 1M NaCl, 1% sodium dodecyl sulphate at 37°C for at least 4 hours, and a wash in 0.1X SSC at 60°C for at least 30 minutes; wherein said nucleotide sequence is operably linked to a promoter that drives expression of a coding sequence in a plant cell.
10. The transformed seed of the plant according to claim 9, wherein said seed comprises said DNA construct.
11. A plant cell having stably incorporated into its genome a DNA construct comprising a nucleotide sequence that encodes a protein having anti-pathogenic activity, wherein said nucleotide sequence is selected from the group consisting of:
- a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:3;
 - b) the nucleotide sequence set forth in SEQ ID NO:6;

c) a nucleotide sequence that shares at least 80% identity to the sequence of SEQ ID NO:6;

d) the defensin nucleotide sequence contained in a plasmid deposited as Patent Deposit No. PTA-75; and,

e) a nucleotide sequence that hybridizes to the complement of any one of a)-d) under highly stringent conditions, wherein said highly stringent conditions comprise hybridization in 50% formamide, 1M NaCl, 1% sodium dodecyl sulphate at 37°C for at least 4 hours, and a wash in 0.1X SSC at 60°C for at least 30 minutes; wherein said nucleotide sequence is operably linked to a promoter that drives expression of a coding sequence in a plant cell.

12. An isolated nucleic acid molecule having a nucleotide sequence that encodes a protein having anti-pathogenic activity, wherein said nucleotide sequence is selected from the group consisting of:

a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:3;

b) the nucleotide sequence set forth in SEQ ID NO:6;

c) a nucleotide sequence that shares at least 80% identity to the sequence of SEQ ID NO:6;

d) the defensin nucleotide sequence contained in a plasmid deposited as Patent Deposit No. PTA-75; and,

e) a nucleotide sequence that hybridizes to the complement of any one of a)-d) under highly stringent conditions, wherein said highly stringent conditions comprise hybridization in 50% formamide, 1M NaCl, 1% sodium dodecyl sulphate at 37°C for at least 4 hours, and a wash in 0.1X SSC at 60°C for at least 30 minutes.

13. A DNA construct comprising a nucleotide sequence of claim 12.

14. A vector comprising the DNA construct of claim 13.

15. A substantially purified protein molecule having an amino acid sequence selected from the group consisting of:

- a) the amino acid sequence set forth in SEQ ID NO:3;
- b) an amino acid sequence that shares at least 80% sequence similarity to the sequence of SEQ ID NO:3; and,
- c) the defensin amino acid sequence encoded by the nucleotide sequence contained in a plasmid deposited as Patent Deposit No. PTA-75.

16. A composition comprising a protein of claim 15, and a carrier.

17. The composition of claim 16, wherein said carrier is selected from the group consisting of a surface active agent, an inert carrier, an encapsulating agent, an agrochemical carrier, and a pharmaceutical carrier.

19. A method for controlling a plant pathogen comprising applying an anti-pathogenic amount of the protein of claim 15 to the environment of said pathogen.

20. The method of claim 19, wherein said protein is applied to a plant.

21. The method of claim 19, wherein said protein is applied by a procedure selected from the group consisting of spraying, dusting, scattering and seed coating.

22. A method for controlling a plant pathogen comprising applying an anti-pathogenic amount of the composition of claim 16 to the environment of said pathogen.